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The Boston Computer Society

SINCLAIR-TIMEX USER GROUP NEWSLETTER

Volume 2, Issue 10

October 1983

This newsletter is produced to inform group members of the agenda and logistics for future meetings, as well as to recap and amplify the information provided at the last meeting. It also provides a forum for members and interested parties to communicate what they have learned or developed relating to Sinclair and Timex computer products. Meetings are open to the public; however, attendees are encouraged to join the Boston Computer Society (BCS). This newsletter is free to members. Back issues are one dollar each.

USER GROUP MEETING

In lieu of an October meeting, we are having a special Celebration, a Sinclair-Timex computer show, at the Boston Park Plaza Hotel. The show starts at 10:00 a.m. and runs till 6:00 p.m. Be sure to be there to see Dan Ross and Maggy Bruzelius at 11:00. In fact, interesting things will be happening all day!

Come early and help us set up, and contribute some time selling tickets, monitoring one of the exhibits, recruiting BCS members, or any of the many jobs which will need done. Contact Sue (203-755-2699), Will Stackman (617-666-8626), Jack Hodgson (617-354-7899), or Beth Elliott (617-742-4826) to state your preference for jobs.

DIRECTIONS TO THE PARK PLAZA

BY AUTO: Take the Massachusetts Turnpike (I90) into Boston. Exit at Prudential Center/Coply Square. Follow Coply Square signs to Stuart Street. Follow Stuart Street to the Boston Park Plaza. Alternately, you can leave your car at the Riverside MBTA station (on Route 128 one exit south of the Turnpike), and take the Blue Line to Boston.

BY MBTA (SUBWAY): Take the Green Line to Arlington Street. Walk south on Arlington Street to the Boston Park Plaza.

ONCE IN THE PARK PLAZA, GO UP TO THE MEZZANINE.

NOVEMBER MEETING

In November, we will be back to the normal routine. The meeting will be on the third Wednesday (16 November), at 7:00 p.m. Directions are on the back page. Contact Allan Cohen if you have suggestions or presentations for the meeting.

WHY A COMPUTER SHOW? by Susan C. T. Mahoney

Personally, I was tired of hearing "What can you do with a personal computer?" not to mention, "What can you do with a Timex Sinclair?" I knew that through my work with the user group and my contacts across the country that there were a lot of exciting applications.

To me it was obvious that we needed an event to highlight the accomplishments and achievements of the group members and bring together Sinclair-Timex computer enthusiasts with exciting applications from across the country. Developing this computer show is the most exciting and challenging event I have ever organized. I met obstacles from every which way ranging from obtaining some financial backing to finding volunteers to help with publicity, organizing, and implementing the show. The show represents countless hours of work for me and the other members working with me on this project. Everything for this event seems to come at the eleventh hour which proves that perseverance and determination does pay off.

This celebration will represent the best and the largest collection of services, products, and applications that are available to owners and prospective buyers of the Timex computers within North America. As the time for the Celebration approaches, we continue to receive calls from individuals and companies from across the country who want to participate and contribute to the event. It looks like we are going to have a very exciting day.

I would like to again thank Reston Publishing for believing in us enough to loan us money to put on the show. Also, I would like to thank Will Stackman, Jack Hodgson, Beth Elliott, John Kemeny, Bob Masters, and Bob Heath for their contributions to this event, and others who will be helping on the day of the event.

I'm looking forward to sharing a very exciting day with all of you on Saturday, October 22. It will be the first time in North American history that so many vendors that support Timex computers will be at one exhibit, not to mention all of the special events, exhibits, and seminars. Please bring your friends and family--this event is open to all!

Special Event

11:00-12:30 Dan Ross, V.P. Timex Computer Corporation, and Maggy Bruzelius, Executive V.P. of Sinclair Research, Limited, will discuss the future plans of their respective companies and the importance of third party support.

Special Exhibits

History Exhibit hosted by Sinclair Research, Limited and the Sinclair-Timex User Group.

Chess Exhibit/Tournament sponsored by Sinclair-Timex User Group.

Machine Language Clinic sponsored by the Machine Language Special Interest Group.

Seminars

Greg Coffin, Ph.D., Director Urbans Schools Collaborative, Northeastern University, "Demonstration of Using the T/S 1500 in the Classroom with Boston Public School Students."

Bob Masters, author of VU-CALC and The Organizer: Getting Serious with Your Timex Sinclair, "VU-CALC as an Electronic Spreadsheet Program and The Organizer as a Personal Filing Program."

Sandra Hutchins, Ph.D., Technical Director of 2 Bit Software, "Computer Literacy Seminar: An Introduction to BASIC Programming."

Bill Russell, founder and designer of products for G. Russell Electronics, "The Ins and Outs of Starting Your Own Cottage Industry."

Dennis J. Krill, member of the Central Pennsylvania Timex-Sinclair Computer User's Group, "Overview of Three Types of Word Processing Programs That Can Be Used with the T/S 1000 Series Computers."

Rita Carr, member of the San Francisco Bay Area Timex-Sinclair User's Group, "Bob Orrfelt's Program to Play Scott Joplin's 'Maple Leaf Rag.'"

Elger Salt, owner of Down East Computers, "The VOTEM Analog to Digital Converter."

Jonna Grammon, United Entertainment Complex, Madison Avenue, New York City, "Booking Music Groups: A Business Application of Thomas B. Woods' Data Finder Program."

Plus others on business, laboratory, and education applications.

Door Prizes

All registered attendees, including those of you who work at the show, will be eligible for door prizes. You need not be present to win. Some of the door prizes, which have been identified so far, include a T/S 2068 computer and a T/S 1500 computer donated by Timex Computer Corporation, a floppy disk drive compatible with the T/S 1000 and T/S 1500 computers donated by Compusa, subscriptions to Sync and Timex Sinclair User magazines donated by their respective publishers, MemoCalc and MemoText donated by Memotech, and software donated by Games To Learn By, Didicom, Memotech, and 2 Bit Software.

National Participation

We've received a lot of positive support from Sinclair-Timex user groups across the country, many of which are sending representatives to this event. This will represent the first gathering of user groups from across the country. Hopefully, this is just the start of communications among our groups so that events such as this can happen on a more frequent basis.

Exhibitors

2 Bit Software, Del Mar, California
 Atlantic Northeast Marketing, Marblehead, Massachusetts
 Byte Back, Leesville, South Carolina
 Compusa (formerly Centronic), Mountainside, New Jersey
 Compuserve, Columbus, Ohio
 E-Z Key, Quincy, Massachusetts
 G. Russell Electronics, Centre Hall, Pennsylvania
 Games to Learn By (GTLB), Williamsburg, Massachusetts
 Gladstone Electronics, Buffalo, New York
 Integrated Data Systems, Toronto, Ontario
 Intercomputer, Boston, Massachusetts
 Kopak, Union City, New Jersey
 Memotech, Denver, Colorado/Needham, Massachusetts
 Microsynch Services, Keene, New Hampshire
 Nissim Elmaleh, Fayetteville, New York
 Reston Publishing, Reston, Virginia
 Softsync, New York, New York
 Syntax ZX80, Harvard, Massachusetts
 Thomas B. Woods, Jefferson, New Hampshire
 Timex Computer Corporation, Waterbury, Connecticut
 Timex Sinclair User Magazine (EEC Publications), Toronto, Ontario
 Vidiom, Providence, Rhode Island
 Ziff Davis Publishing (Sync Magazine), New York, New York
 Plus others.

OUTLINE OF THE SINCLAIR AND TIMEX COMPUTERS by Susan C. T. Mahoney

Below is an outline of the history of the Sinclair and Timex computers with the year they were introduced, type of computer, its qualities (black and white or color, memory size), and its suggested retail price. A lot of power for a low price! Be sure to see the history exhibit with examples of all of these computers plus peripherals, plus a time line showing when these products were introduced in the U.K. and U.S.

<u>Year</u>	<u>Computer</u>	<u>B & W or Color</u>	<u>Memory Size</u>	<u>Retail Price</u>
1980	ZX-80	B & W	1 K RAM, 4 K ROM	\$199.95
1981	ZX-81	B & W	1 K RAM, 8 K ROM 16 K RAM, 8 K ROM	\$149.95 \$249.90
1981	ZX Spectrum (U.K. Release Only)	Color	16 K RAM, 16 K ROM 48 K ROM, 16 K ROM	\$200.00 \$250.00
1982	T/S 1000	B & W	2 K RAM, 8 K ROM 16 K RAM, 8 K ROM	\$ 99.95- 49.95 \$149.90- 99.95
1983	2040 Printer			\$ 99.95
1983	T/S 1500	B & W	16 K RAM, 8 K ROM (Expandable to 32 K)	\$ 79.95
1983	T/S 2068	Color	48 K RAM, 24 K ROM	\$199.95

HISTORY AND BACKGROUND ON OUR USER GROUP by Susan C. T. Mahoney

This month will mark the beginning of our third year as the Sinclair-Timex User Group. The user group is a group of individuals who get together to share information about their Sinclair and Timex computers. During the past two years, we have grown from 18 members to 800 members. This fantastic growth is indicative of the excitement and enthusiasm within the group. I'm looking forward to seeing further growth in our group and more activities and participation by our members.

History of Our Group

During the summer of 1981, I was working for the U.S. headquarters of Sinclair Research, Limited in Boston planning some marketing strategies to introduce Clive Sinclair's ZX-81 microcomputer to the U.S. market. The ZX-81 had already been introduced in Europe and was doing very well, especially in the U.K. where there already was an established base of owners of the ZX-80, the forerunner of the ZX-81.

I was very excited because Sinclair was the first to come out with a personal computer for under \$200.00. (In those days, a personal computer cost between \$500 and \$2500.) Both the ZX-80 and ZX-81 were light and compact--only 12 ounces and 6 1/2 inches long, not much larger than a dessert plate. Yet the Sinclair computer packed a lot of computing power. It was capable of computing (performing number crunching) as fast as most personal microcomputers. It could run useful programs for home, business, school, and entertainment. However, many people had a hard time taking the Sinclair computer seriously because of its size and price.

I really believed that the Sinclair computer would revolutionize America because of its low cost for, not only the computer, but also the hardware (peripherals or accessories) and the software (programs). This low cost would allow anyone interested in learning more about a computer an opportunity to do so. This would spread the base of owners and users so that we would see new applications being developed by people who, prior to this time, never thought of owning or using a personal computer!

I was determined to find out what owners of Sinclair computers were using them for so I approached Jonathan Rotenberg, President of the Boston Computer Society (BCS), to ask if I could start a Sinclair user group. He gave me permission and I was off and running. Most user groups, as ours, are open to the public on a trial basis; however, regular attendees are encouraged to join. Benefits in joining the BCS include not only membership in our group, but also an opportunity to join the 27 other user groups of the BCS, receive Computer Update, a bimonthly magazine, attend workshops, and other benefits.

BCS user group directors are responsible for finding their own free meeting space since none of us have a budget for rental of space. Consequently, I arranged for our user group's first meeting to take place in a store front operation in Kenmore Square in Boston. Eighteen people showed up at the first meeting to exchanged ideas and discussed questions regarding the ZX-80 and the ZX-81. It felt like we were off to a good start. However, two days before the second meeting, I found out that the company that had allowed us to use their space had filed for bankruptcy and we had to find another meeting place. I found an alternate spot in time to keep the second meeting.

Our group kept growing, even though we did not have a permanent home. After outgrowing three meeting places, we were offered use of the Science

Building at University of Massachusetts. We originally met in the Small Science Auditorium which holds 125 persons. We moved to the Large Science Auditorium on our first anniversary at which time our attendance was over 200! We have continued meeting at University of Massachusetts and are very grateful to Richard Kane from the Physics Department and Joe Lally from Continuing Education who got us permission to use the space.

Format of Meetings

Our meetings generally include one to three main presentations by a combination of members and outside guests. Guests usually represent a company that produces and markets hardware, software, services, or publications that support the Sinclair-Timex computer. We always try to encourage participation from our members and, therefore, allow time for questions and announcements. After announcements, we break up into special interest groups, the subjects of which vary according to the interests of the people present.

Special Interest Groups

On-going special interest groups within the Sinclair-Timex User Group include the Beginner's Group and the Machine Language Group. The Beginner's Group meets directly after our general monthly meeting to help beginners or prospective Timex buyers. We answer questions and exchange information. The Machine Language Group meets first Wednesday of the month. At this special meeting, advanced users discuss various aspects of the Sinclair-Timex hardware and machine language programming that are too detailed for our general meeting.

Services

Services available to our members which include our library, this newsletter, newsletter exchange, and free advice. You can check out books, magazines, and public domain software from our library. We always are actively looking for donations. We have a monthly newsletter which has expanded from a one-page handwritten document to a 12 page newsletter with highlights of the past meetings and agenda for the upcoming meetings. It normally contains articles on aspects of the computer, software and hardware reviews, editorials, and interviews. We exchange our newsletter with other groups across the country to keep track of who is doing what. You can have access to these newsletters through our library. Most members are willing to help each other with questions, on an informal basis.

Benefits

Benefits you receive from the group are related to the extent of your involvement. The benefits I have received as founder and director of the group are many. For one thing, this group has provided an opportunity for me to meet very interesting and exciting individuals and companies. Because of my work with this group, I have received phone calls from people literally all over the U.S. and Canada. These calls have included inquiries about the Sinclair-Timex computers and exchanges of information about the various user groups across the country. Professionally, I developed a consulting and later a staff position with Timex Computer Corporation. I also have worked with publishers in reviewing books on the computer, as well as referring other members of our group to review books or products.

HIGHLIGHTS OF THE SEPTEMBER MEETING

A disk drive was demonstrated and two modems were reviewed at our last meeting. Additionally, we continued our planning for our Second Anniversary Celebration.

Frank Kaplan from Compusa Corporation, Mountainside, New Jersey demonstrated a prototype of the FDC-101 floppy disk system. Compusa is a division of Centronic, Inc. (not to be confused with the New Hampshire-based printer manufacture, Centronics). A previous Sinclair-Timex product developed by Centronic is the Fizz Board, a floppy disk system with far less capability than the FDC-101.

The heart of the floppy disk system is the FDC-100 controller board. This printed circuit board contains the floppy disk controller and a 2732 ROM containing the disk operating system (DOS). The controller plugs into the edge connector of the computer, drawing it power from the computer, and has cables for interface with two floppy disk units. Initially, the controller will be delivered without a dust cover.

The controller will work with many standard disk drives--single and double density, single and double sided. User interface with the control is accomplished with the Sinclair LOAD and SAVE commands by using, in place of standard file names, commands to the disk. PEEKs and POKEs are not required. The syntax is such that the BASIC interpreter is happy and, if disk access is not intended, the file will be written to or retrieved to the standard cassette tape interface. Disk operations are fast! Large programs in less than 10 seconds.

The DOS supports both program and data storage. Programming chaining, i.e., LOADING a self-running program from within a running program, is supported. Additionally, the DOS can LOAD data directly into, and SAVE data from, a variable providing data input/output capabilities. Program storage requires one track per program. A 35-track double-density disk will hold 35 6 Kbyte programs or program segments. The DOS is memory mapped into the 12-16 K region, but can be configured into locations 8-12 K.

The controller lists for \$199. Compusa will be at our Celebration and offering a preproduction special. The special price is \$169. The ship date for production units is early November. Compusa also sells complete floppy disk systems. Systems include the controller, one or two disk drives with case, and power supplies. For a single-sided 35-track disk system, the price is \$499. The preproduction special is \$450. Add \$49 for a double-density disk drive.

Jeff Parker followed Frank Kaplan's demonstration with a review of two modems, both from Byte-Back. Jeff found the first modem, MD-1, in the Want Advertiser. The second, the MD-2, was sent to him by Byte-Back for review. Jeff described both modems and then discussed how modems can be used. See Jeff's article for details. Computerized bulletin board systems (CBBS) and information system, such as Compuserve, were among the uses discussed. [Contributions to the newsletter can submitted electronically with such a modem.] It was stated, however, that to get the most from a modem and the communications possibilities it affords, a full-sized keyboard needs to be added to the computer.

TURNING YOUR SINCLAIR-TIMEX INTO A SMART TERMINAL by Jeffrey S. Parker

The Byte-Back Company of Leesville, South Carolina is one of the first companies to manufacture a modem for the Sinclair-Timex computer. Back-Byte produces an affordable and versatile modem, completely compatible with your T/S 1000, T/S 1500, and ZX-81. The modem, the MD-2, is a direct connect modem, plugging directly into the telephone wall connector. It connects to the computer's edge connector and has a through connector for add on of other peripherals. It incorporates an RS-232 port for hookup to any RS-232 compatible device, such as a printer. It has its own on/off switch. The MD-2 comes in an attractive low-profile case, similar in design to a Memotech product. It can be purchased as a kit or fully assembled. The kit price is \$119.95; the price for the assembled and tested version is \$149.95. Byte-Back offers a 90 day limited warranty on all parts and workmanship. The warranty is slightly modified for you daring kit builders.

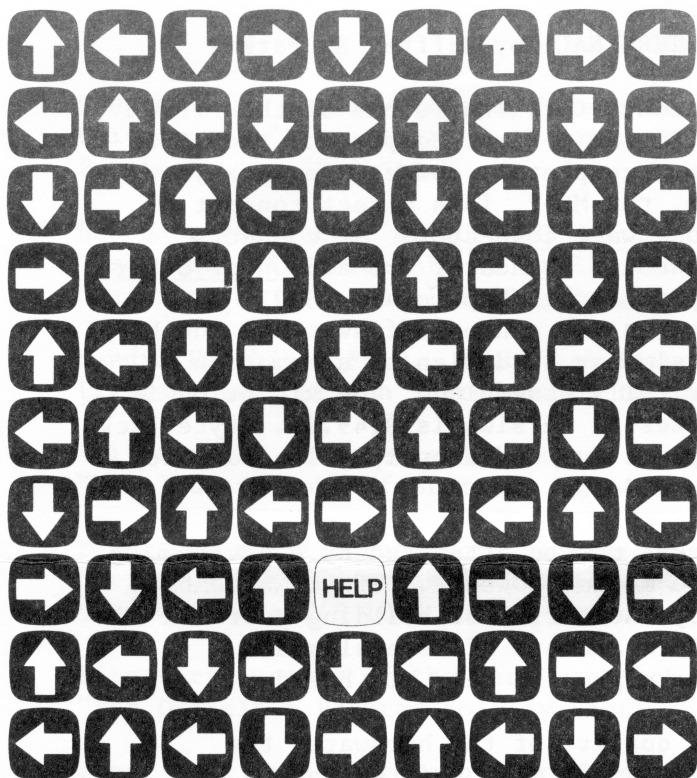
A note of caution: kit assembly should not be attempted by a novice. There are no unusual characteristics to the modem, however. If you assembled your computer, you should be able to enjoy the thrill of building your own MD-2. Jerry Minchey, the owner of Byte-Back and one of several staff engineers, is on tap from 7 to 10 p.m. weeknights to help kit builders.

While there is no question about the quality of the hardware, the software which accompanies the modem is extremely well written and extraordinarily versatile. The program driving the modem is called ZCOMM. The program loads reliably. There is both a 2 K version and a 16/64 K version of ZCOMM. The program user's manual is easy to follow and complete, and contains a program listing to facilitate user modifications. With ZCOMM, the modem can be used to originate a call to a host computer or answer one from another terminal. The 2 K version of ZCOMM will use an RS-232 printer or the T/S 2040 printer in one of two modes: continuous print and on-command print of the contents of the screen. The print option is activated and deactivated with a single key command. The 16/64 K version allows all of these functions plus the capability to upload and download a program to and from your host computer. It also allows the transmission and receipt of variables, all by easy to use keyboard commands.

Byte-Back's previous modem, the MD-1, is no longer in production, having been replaced by the MD-2. The chief differences between the two modems are the shape of the case (the MD-1 is tall rectangular versus low-profile), internal construction (two boards in a piggy back arrangement in the MD-1 versus a single board in the MD-2), and circuitry such that the MD-2 does not require the telephone receiver to remain off hook after call setup. Also the MD-1 did not have the power switch.

If you can purchase an MD-1 modem from a private party, I recommend it. The quality is extremely high, and barring abuse, the hardware will last. It is not, of course, the current model and so slightly less capable. But, you can purchase both a case and a software upgrade for the MD-1 from Byte-Back for \$44.90, including shipping and handling.

If you crave adventure in the new world of telecommunications, if you've ever felt intimidated by your neighbors Apple IIe, or if you want to enjoy the luxury of instant news, banking, and travel and product information, get a modem. It will allow access to a broad base of computing capabilities, right from your little machine. What are you waiting for?



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BUFFERING THE DATA BUS

In the last newsletter, we described a technique for buffering the data bus on the ZX-81 and T/S 1000 to reduce the deteriorative effects of adding peripherals to the computer. It is interesting to note that the technique we described is used in the T/S 1500, i.e., the T/S 1500 uses a 74LS245 octal bus transceiver chip in place of resistors to separate the data bus.

MACHINE CODE EXECUTION ABOVE 32 K

With a simple change to your computer and the addition of one logic chip, it is possible to execute machine code in the 32 to 48 K region of RAM memory. The technique is described in the "last" issue of SQ. The technique involves replacing the M_1 signal from the Z-80 chip with the logical "or" of the M_1 signal and the inverted A_{14} address signal (A_{14}). If this change is applied to the circuits described in the last newsletter, it will ensure that the transceiver is enabled whenever the 32 to 48 K memory region is addressed.

ON THE TIMEX PRINTER/MEMOTECH MEMORY COMPATIBILITY PROBLEM

As reported in the last newsletter, a solution to the printer-memory incompatibility is clipping three capacitors. Bob Heath has done this--it works! The printer capacitors, C4, C5, and C6, are small components, not large ones as previously stated.

THE CONTINUING ADVENTURES OF THE FLASHING CURSOR OR HIGHLIGHTS FROM THE
SEPTEMBER MACHINE LANGUAGE GROUP MEETING by Jack Hodgson

The Machine Language (and hardware design) Special Interest Group continues to be a small but enthusiastic gathering. In September, the main activity was a lively discussion of a new piece of software on the market which allows the user to create high-resolution graphics on the screen, completely through software. Those familiar with the Sinclair architecture realize that the hardware design uses timed interrupts to pace the television display and that the table of pixel (picture element) information must be located below the 8 K boundary. The software reviewed disables the interrupts and generates the screen from its own routines, pacing the display by keeping precise track of the number of instruction cycles that have been executed. A continuation of this discussion and a demonstration is planned for a future meeting.

Mike Coughlin gave a short briefing of new chips that are coming on the market with a special emphasis on memories that can be installed within the computer.

Dave Wood, who led the high-resolution graphics discussion, once again attempted to demonstrate his word processor with its amazing flashing cursor, but the fates were not with us, and hardware problems made the unveiling impossible. Another attempt is expected in October which we await with byteed breath.

The Machine Language Special Interest Group meets on the first Wednesday of the month at 7:00 p.m. at ITEK Optical in Lexington, Massachusetts. For directions and to let us know you're coming, call Bob Heath at 276-2424 (work).

How will you take your SYNTAX/Syntax Quarterly?

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REGULAR MEETING (NOVEMBER): The Sinclair-Timex User Group meets in the Large Science Auditorium (Room 8/2/009) of the University of Massachusetts of Boston, Harbor Campus. The Harbor Campus is only 3 miles from downtown Boston and easily accessible by public and private transportation. From the north or west, take the Southeast Expressway to Exit 17. Turn left onto Columbia Road. Follow construction signs to go to Morrissey Boulevard in the direction of UMass and the Kennedy Library. Bear right on the traffic island, to get in the right two lanes, following UMass/Boston signs. Turn left at the light into the Campus. From the south, take Morrissey Boulevard northward to the campus. On the MBTA, take the Red Line (Ashmont Train) to Columbia Station. Transfer to the free University shuttlebus in the T parking lot.

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